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Comparison of Lattice Filtrations and Moy-Prasad Filtrations for Classical Groups

Let F_\circ be a non-Archimedean local field of characteristic not 2. Let G be a classical group over F_\circ which is not a general linear group, i.e. a symplectic, orthogonal or unitary group over F_\circ (possibly with a skew-field involved). Let x be a point in the building of G . In this article, we prove that the lattice filtration $(\mathfrak{g}_{x,r})_{r \in \mathbb{R}}$ of $\mathfrak{g} = \text{Lie}(G)$ attached to x by Broussous and Stevens, coincides with the filtration defined by Moy and Prasad.

Keywords: Local field, division algebra, classical group, building, lattice filtration, Moy-Prasad filtration, unramified descent.

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